

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/613,398	AMIDI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tuan T. Dinh	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 15 November 2007.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-11 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/15/07 has been entered.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Laudon et al. (U.S. Patent 6,049,476).

As to claims 1-2, Laudon et al. discloses a memory module (102) comprising:  
a printed circuit board (103) having a plurality of connector pins (edge connector 108);

a plurality of different types of memory devices (SDRAM 104 for data memory, and 106 for state memory or 210 and 212 in figure 2) mounted on said printed circuit board (103); and

an electrical circuit (traces or components mounted on the PCB 103) coupling said plurality of memory devices (104, 106) to said plurality of connector pins (6) such that said plurality of connector pins (6) has multiple functionality based on a respective architecture of each of said plurality of different types of memory devices (104, 106), see column 7.

As to claim 3, Laudon discloses said plurality of connector pins (108) engages with a memory socket (see column 7), said memory socket communicating with a memory controller (216).

As to claims 8-9, Laudon et al. discloses a computer comprising: a main board (motherboard, not shown); and a memory module (102) coupled to said main board, said memory module including: a printed circuit board (103) having a plurality of connector pins (108); and a plurality of different types of memory devices (104 and 106, which is a DRAM and/or DDR SDRAM mounted on said printed circuit board (103), an electrical circuitry (trace pr path) electrically coupling said plurality of memory devices to said plurality of connector pins such that said plurality of connector pins has multiple functionality based on the architecture of said plurality of memory devices.

As to method claims 10-11, one would necessarily perform the cited method steps in using the apparatus rejected above.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Laudon in view of Deneroff (as in the record).

As to claims 4-7, Laudon discloses all of the limitation of the claimed invention except for said memory controller includes: a plurality controllers, each controller corresponding to an architecture of one the plurality of different types of the memory devices; an Finite State Machine (FSM) coupled to said plurality of controllers; an address multiplexor coupled to said FSM, said address multiplexor communicating with said memory socket; a control multiplexor coupled to said FSM, said control multiplexor communicating with said memory socket; and a data multiplexor coupled to said FSM, said data multiplexor communicating with said memory socket, and further comprising: a second electrical circuit said second electrical circuit coupled to said plurality of memory devices; and a plurality of testing pins, and said plurality of connector pins (6) includes 220 pins. Deneroff discloses all that limitations (see the last Office action). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Deneroff employed in the module of Laudon in order to provide excellent operation for the user.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gutierrez F. Diego can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tuan Dinh  
January 28, 2008.